

WHAT IS CLAIMED IS:

1. An apparatus, comprising:

an information storage medium having an information  
5 storage surface;

structure which includes a head and can effect a  
transfer of information with respect to said surface,  
said structure being operable to effect relative movement  
of said head and said surface, said relative movement  
10 including first and second zones which are mutually  
exclusive, said structure being operable to effect  
relative movement of said head and said surface within  
said first zone while maintaining said head adjacent said  
surface and using said head to effect at least one of  
15 reading information from and writing information to said  
surface, and wherein said head is spaced from said  
surface when in said second zone; and

a head cleaning section which includes a cleaning  
part engageable with said head when said head is in said  
20 second zone, said structure being operable to effect  
relative movement of said head and said cleaning part  
while said head and said cleaning part are engaged, in a  
manner which includes a component of movement  
representative of an applied force subject to a damping  
25 influence.

2. An apparatus according to Claim 1, wherein said  
applied force includes a harmonic oscillation and said  
damping influence includes an overdamping of said  
30 harmonic oscillation.

3. An apparatus according to Claim 1,  
wherein said applied force and said damping  
influence are each effective with an orientation  
5 approximately parallel to a predetermined direction; and  
wherein said relative movement of said head and said  
cleaning part while said head and said cleaning part are  
engaged includes a further component of movement  
effective with an orientation approximately parallel to a  
10 further direction which is transverse to said  
predetermined direction.

4. An apparatus according to Claim 3, wherein one  
of said components of movement involves a reciprocating  
15 motion and the other thereof involves progressive motion  
in one direction during said reciprocating motion.

5. An apparatus according to Claim 3, wherein said  
further component of movement includes a reciprocating  
20 motion of said head relative to said cleaning part.

6. An apparatus according to Claim 3, wherein said  
applied force includes a harmonic oscillation, and said  
damping influence includes an overdamping of said  
25 harmonic oscillation.

7. An apparatus according to Claim 1, wherein said  
head cleaning section includes a first portion which can  
apply said applied force to said cleaning part in a  
predetermined direction, and a second portion which  
30 exerts said damping influence on said cleaning part  
approximately parallel to said predetermined direction.

8. An apparatus according to Claim 7, wherein said first portion includes a resilient part which yieldably resists movement of said cleaning part away from a predetermined position in a direction approximately parallel to said predetermined direction.

9. An apparatus according to Claim 8, wherein said resilient part is a flexible part having said cleaning part supported thereon;

wherein said second portion includes a damping part which is physically coupled to said flexible part and damps flexing of said flexible part;

wherein said structure includes a movably supported member which has said head supported thereon;

wherein said structure is configured to effect movement said member so that said head moves within said second zone from a first position to a second position and then back to said first position; and

wherein in response to movement of said head by said member from said first position to said second position, said cleaning part is moved away from said predetermined position through flexing of said flexible part, and said cleaning part and said flexible part are free of influence from said head and said member as said head returns from said second position to said first position.

10. An apparatus according to Claim 9,  
wherein said head cleaning section includes an  
element mounted on said flexible part;

5        wherein as said member moves said head from said  
first position to said second position said member  
engages said element and moves said element in a manner  
that flexes said flexible part and moves said cleaning  
part away from said predetermined position; and

10        wherein as said member moves said head from said  
second position to said first position said member is  
free of engagement with said element.

11. An apparatus according to Claim 9, wherein said  
15 movement of said head from said second position to said  
first position includes, at a location between said first  
and second positions, a reciprocal motion of said head in  
directions approximately parallel to a direction of  
movement thereof between said first and second positions.

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12. An apparatus according to Claim 8,  
wherein said head cleaning section includes a  
pivotally supported lever having said cleaning part  
thereon;

5        wherein said resilient part is a spring which  
yieldably urges said lever to pivot in a predetermined  
direction;

      wherein said second portion includes a damping part  
which is cooperable with said lever for yieldably  
10       resisting pivotal movement thereof;

      wherein said structure includes a movably supported  
member which has said head supported thereon;

      wherein said structure is configured to effect  
movement said member so that said head moves within said  
15       second zone from a first position to a second position  
and then back to said first position; and

      wherein in response to movement of said head by said  
member from said first position to said second position,  
said cleaning part is moved away from said predetermined  
20       position through pivotal movement of said lever against  
the urging of said spring, and said cleaning part and  
said spring are free of influence from said head and said  
member as said head returns from said second position to  
said first position.

13. An apparatus according to Claim 12, wherein said second portion includes a damping part which cooperates with said lever and with a stationary part, and which has alternating layers of a polyester material and a pressure sensitive adhesive, said pressure sensitive adhesive yieldably resisting shear forces within said pressure sensitive adhesive so as to provide said damping influence.

14. An apparatus according to Claim 12, wherein as said member moves said head from said first position to said second position said member engages said lever and pivots said lever against the urging of said spring; and

wherein as said member moves said head from said second position to said first position said member is free of engagement with said lever.

15. An apparatus according to Claim 12, wherein said movement of said head from said second position to said first position includes, at a location between said first and second positions, a reciprocal motion of said head in directions approximately parallel to a direction of movement thereof between said first and second positions.

16. An apparatus according to Claim 1, wherein said cleaning part has a textured surface, and said engagement of said head and said cleaning part involves engagement of said head with said textured surface.

17. An apparatus according to Claim 16, wherein said cleaning part has a portion which is made of sol-gel and which has said textured surface thereon.

5           18. An apparatus according to Claim 16, wherein said cleaning part has a portion which is made of an epoxy material and which has said textured surface thereon.

10           19. An apparatus according to Claim 1,  
              wherein said information storage medium includes a magnetic material which has said information storage surface thereon; and  
              wherein said head is a magnetic read/write head.

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20. A method of operating an apparatus which includes an information storage medium having an information storage surface, structure which includes a head and can effect a transfer of information with respect to said surface, and a cleaning part, said method comprising:

effecting relative movement of said head and said surface, said relative movement including first and second zones which are mutually exclusive, said head being spaced from said surface when in said second zone;

maintaining said head adjacent said surface and using said head to effect at least one of reading information from and writing information to said surface during relative movement of said head and said surface within said first zone;

causing said cleaning part to engage said head when said head is in said second zone while effecting relative movement of said head and said cleaning part in a manner which includes a component of movement representative of an applied force subject to a damping influence.

21. A method according to Claim 20, including:

configuring said applied force to include a harmonic oscillation; and

configuring said damping influence to include an overdamping of said harmonic oscillation.



22. A method according to Claim 20, including:

orienting said applied force and said damping  
influence to each be effective approximately parallel to  
5 a predetermined direction; and

causing said relative movement of said head and said  
cleaning part while said head and said cleaning part are  
engaged to include a further component of movement  
effective with an orientation approximately parallel to a  
10 further direction which is transverse to said  
predetermined direction.

23. A method according to Claim 22, including  
configuring one of said components of movement to involve  
15 a reciprocating motion, and configuring the other thereof  
to involve progressive motion in one direction during  
said reciprocating motion.

24. A method according to Claim 22, including  
20 configuring said further component of movement to include  
a reciprocating motion of said head relative to said  
cleaning part.

25. A method according to Claim 22, including:  
25 configuring said applied force to include a harmonic  
oscillation; and

configuring said damping influence to include an  
overdamping of said harmonic oscillation.

26. A method according to Claim 20, including  
configuring said cleaning part to have a portion which is  
made of sol-gel and which has thereon a textured surface,  
5 said engagement of said head and said cleaning part  
involving engagement of said head with said textured  
surface.

27. A method according to Claim 20, including  
10 configuring said cleaning part to have a portion which is  
made of an epoxy material and which has thereon a  
textured surface, said engagement of said head and said  
cleaning part involving engagement of said head with said  
textured surface.

15 28. A method according to Claim 20, including  
configuring said information storage medium to include a  
magnetic material which has said information storage  
surface thereon, said head being a magnetic read/write  
20 head.